

Access to Information Technology



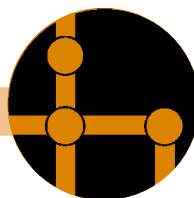
Access



Content



Diversity



Infrastructure



Literacy

Direct Access to computers, the Internet and other information technologies starts the access pathway. Key questions follow, revealing the depth of access issues. Which technologies are essential? Who owns equipment and how convenient is the access? What bandwidth capacity is available and what is the impact of the cost of access? What are the barriers to access?

This section examines who has access to a range of information technology tools, from computers and the Internet to cable television. It also looks at who does not have access. Other measurements in this section cover quality of IT access in the home, barriers, and the capacity of libraries and other public computing centers (community technology centers or CTC's) to meet the needs of the have-nots. Finally, this section looks at information technology as a tool for breaking down barriers, with a focus on the quality and cost of access available to people with disabilities.

Overall Information Technology Access

Household access is an indication of the opportunity that residents have to utilize basic and more advanced information technology. For this indicator we define baseline tools as telephones, televisions, computers and the Internet. Advanced tools include cable and satellite TV, high speed Internet access, and wireless phones. We combined responses on access to each tool to create a measurement reflecting overall access for Seattle households.

Overall, Seattle residents have high levels of access to information technology.

Almost all respondents (95%) have televisions at home, and three out of five (60%) subscribe to cable TV.

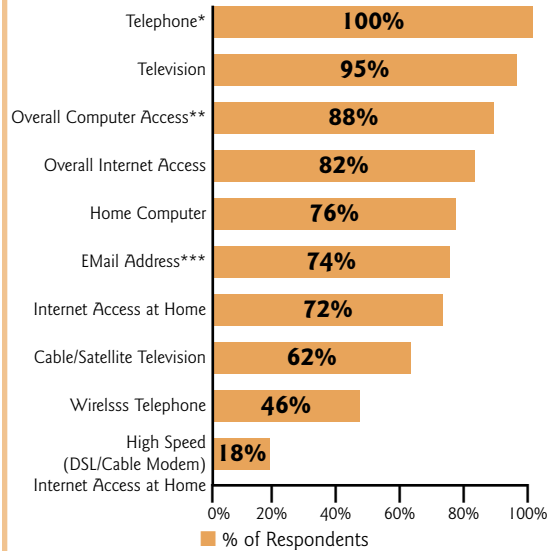
Five percent subscribe to satellite TV. Almost half (46%) have a wireless phone.

More than one-third (35%) of those surveyed have access to nine or more of the technologies mentioned in the survey (see graph). An additional 39 percent fall into the average category, and have access to seven or eight of the technologies.

Twenty-five percent, however, classified themselves as having “limited” or “below-average” access to IT. These reported having access to

fewer than seven of the technologies, with some having as few as one in the list.

ACCESS TO INFORMATION TECHNOLOGY



* Since this was a telephone survey, 100% of respondents had a telephone. Other studies show that only 98% of Seattle residents have a telephone.

** Overall access to a computer and the Internet includes respondents who have access to a computer at home, work, school, library, community center, Internet café, and/or some other location.

*** This question was not asked of the 9% of respondents who indicated that they had never used a computer.

Source: 2000 Seattle IT Residential Survey

Measurements

Percent of Residents with High Access to Information Technology **35%**

Percent of Residents with Average Access to Information Technology **39%**



Access Values

In the course of developing the access indicators, community members identified these values:

- Access to basic information technology should be equitable and affordable, and all individuals should have the opportunity to use current, updated equipment.
- Information technology access should allow users to produce content, and not just consume information.
- Access must include training opportunities for building literacy and fluency.
- Public access points are useful only if we ensure that people are aware of their availability.

Computer and Internet Access in the Home

Our research showed that home users are likely to have higher computer and Internet literacy compared to those who connect only at public access sites, such as libraries, school and community centers.¹ Home access increases opportunities to explore the tools and potential uses. With home access, residents have no restrictions on time and content. Home users can attend school or complete school work, apply for services, do research, and telecommute. Public access users are limited by hours of operation, the capacity, and location of computer labs. Measuring home access also gives some insight into affordability of computers and the priority residents place on having them in their homes.

Measurements

Percent of Seattle Residents with Home Access to a Computer	76%
Percent of Seattle Residents with Home Access to the Internet	72%

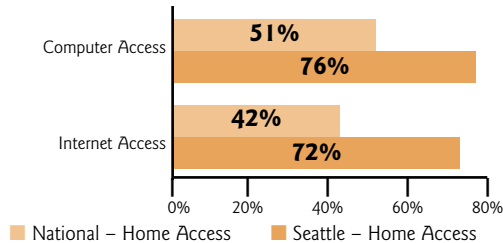
Most Seattle residents (91%) have used a computer, and the majority of residents (76%) have a computer in the home.

This is significantly higher than the national average. It is estimated that only about half (51%) of US households have a computer.

Among Seattle residents with computer access, nearly all (93%) have Internet access.

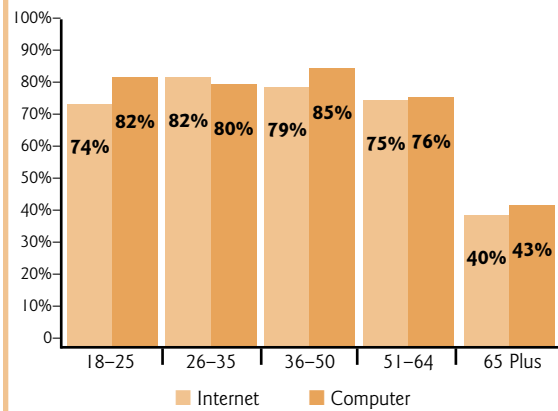
Almost three quarters (72%) of Seattle residents have Internet access at home. Again, this is significantly higher than the national average, which suggests that approximately two in five American households (42%) have Internet access.

AVERAGE SEATTLE COMPUTER AND INTERNET ACCESS COMPARED TO NATIONAL AVERAGES



Sources: 2000 Seattle IT Residential Survey and *Falling Through the Net: Towards Digital Inclusion* (2000)

HOME COMPUTER AND INTERNET ACCESS BY AGE



Source: 2000 Seattle IT Residential Survey

Despite the generally high accessibility to computers and the Internet in Seattle, the numbers change when age, ethnicity, education and income enter the picture.

In-depth analysis was done to see which of the demographic factors has the most significant effect on access. The results of this analysis show that each of these factors affects the occurrence of home computer and Internet access, other factors notwithstanding.

The largest gap in home computer and Internet access is seen in Seattle's senior population.

Those over the age of 65 are less likely to have computer and Internet access at home, but this is less of a factor than seen with income, education and ethnicity. After correcting for the other factors, those over the age of 65 are just

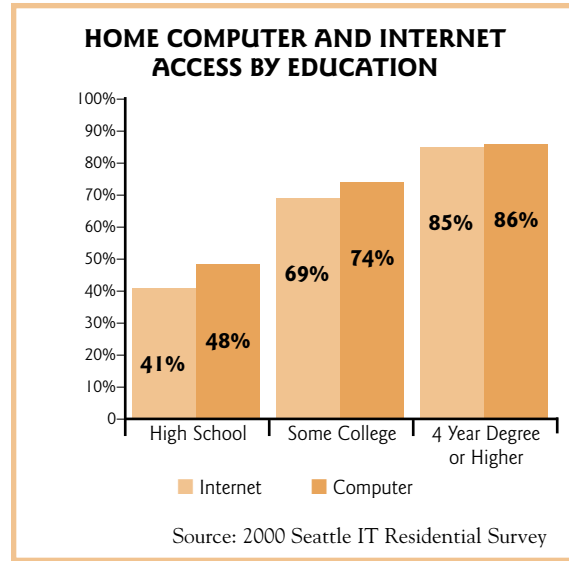
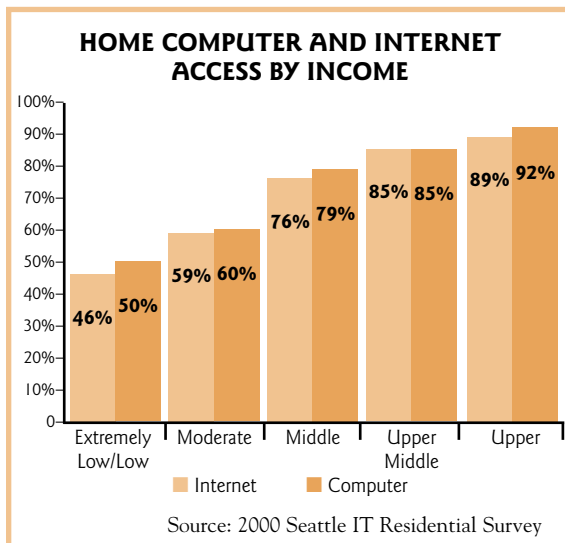
under three (2.8) times less likely to have computers at home. For the Internet, the odds decrease a bit more, with those over 65 being 2.9 times less likely to have net access at home. The results shown here are consistent with other studies that show that seniors are the least likely to have access to computers and the Internet.

There are many factors that may contribute to the lack of access in this age group, including lack of exposure to the potential benefits of computers, living on a fixed income, and distrust of or unease with technology. We predict that more seniors will continue to get connected, as today's retirees have been exposed to computers and the Internet at work and may already be connected.

Access to computers and the Internet at home increases with income, with the largest jump in access found between those in the moderate to middle income brackets.

Of all the demographic factors, income has the greatest influence on home access to computers. After correcting for age, education, and ethnicity, those in the middle income bracket or higher are five times more likely to have a computer at home than those in the lower income brackets.

Income has a slightly lesser effect on home Internet access. Those in the middle income



brackets or higher are 4.5 times more likely to have Internet at home than those with lower incomes.



As education increases, so does home access to computers and the Internet.

After correcting the data set for age, income, and ethnicity, we found that those with education beyond high school are four times more likely to have home computer access than those with a high school degree or less.

For Internet access, the odds ratio is even higher. Those with education beyond high school are almost five (4.7) times more likely to have Internet at home than those with a high school degree or less.

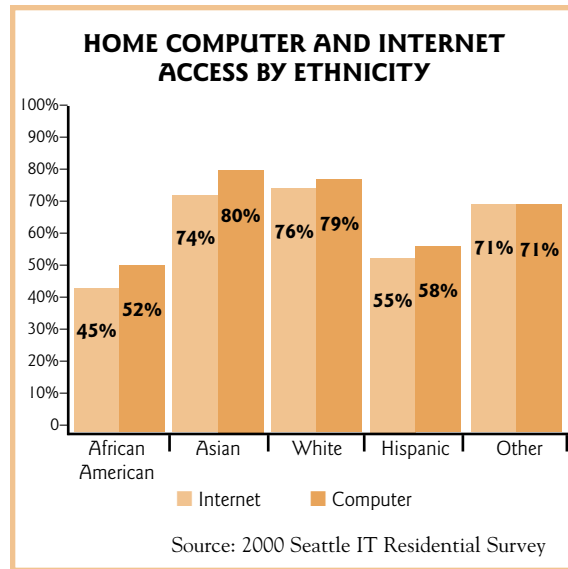
Computer and Internet Access in the Home, *continued*

Access at home is also affected by ethnicity, regardless of income, age, or education.

Asian Americans are the most likely to have access to computers and the Internet, regardless of income. After correcting for income, age, and education, Asian Americans are just over twice (2.2) as likely to have a computer in the home than all other ethnic groups combined.

For African Americans and caucasians, access to computers and the Internet increases with income. However, for all income levels, African Americans have lower access to technology than do caucasians, and are more reliant on access outside the home. After correcting for income, age, and education, African Americans are more than three (3.2) times less likely to have a computer in the home than all other ethnic groups combined.

When looking at Internet access, African Americans are almost four (3.9) times less likely to have Internet access at home than all other ethnic groups combined.





Seniors Training Seniors

In 1999, the City of Seattle Department of Information Technology commissioned a study on how to best train senior citizens in computer and Internet usage. Studies have consistently shown that those over the age of 65 are significantly less likely to have access to computers and the Internet.

The City's study recommended that training of seniors be done by other seniors. With this in mind, the Seniors Training Seniors program was developed. In the first year of the program, 32 senior trainers trained more than 300 of their peers, and the program continues to grow.



Jim, 57, Senior Training Seniors Volunteer Instructor

On teaching

I get a lot of pleasure out of teaching people. Probably the absolute gift one person can give to another is to teach them something. I'm not a computer wiz but I can teach. I'm nowhere near what someone would call a hacker. I just go out there and use computers as much as I can.

On age and learning

As one gets older, there's less and less opportunity to be in the mainstream. And because many of the things we do now are using computers with the Internet, that even puts them further out of the loop unless they get into it at some point.

It's difficult for me to learn these things so I can understand how difficult it is for somebody coming in at some of these ages learning something entirely different. It's incredible that they're willing to take that risk.

On challenges

It's just so easy to get lost. Especially the way things are coming at people now. The way pages are being pushed at people more and more. So that it's real easy to click on a page and have five more spring up at you. The difference between a senior and a 14 year old getting lost is that the 14 year old probably thinks it's a challenge. The senior probably thinks that it's something they've done wrong.

Mitzi, 82, Student

Mitzi is a Nisei, born in 1918 to immigrant parents from Japan. She was sent to an internment camp during WWII and later worked with U.S. intelligence operations until she retired in the mid-1980's.

I approach my friends, and they seem to stay away from this sophisticated tech. I think they're afraid. They don't care. I said well, you know, it's kind of nice to stay up to date with the new tech. But, "I'm too old for that sort of thing is the line I get. And I'm not about to jump into something like that." I kind of feel sorry for them because they don't know what they're missing.

Literacy with a purpose

I don't want to be computer illiterate. And I wanted to converse with my grandchildren on this subject. Another thing, I needed to learn how to use a computer in conjunction with a large reunion I organized about six years ago. I had to write certain material for a booklet so that gave me a start.

Success

I've taken quite a few classes. And one I enjoyed lately is emailing in Japanese. You have to know the language in order to do that...So I went ahead and typed a message for Jim [the instructor], and he couldn't read it. [Laughs.]

Quality of Home Access

Equity in home access is a moving target. Processor speeds continue to double every 18–24 months. Computer applications have grown more sophisticated and complicated, fueling a market for more powerful and portable devices. Deployment of higher bandwidth services like DSL and cable broadband enable delivery of new and faster services on the World Wide Web. Those with higher bandwidth and more powerful equipment have advantages; they can save time online, making it easier to work or study from home, utilize multimedia materials and web-based application services.

Measurements

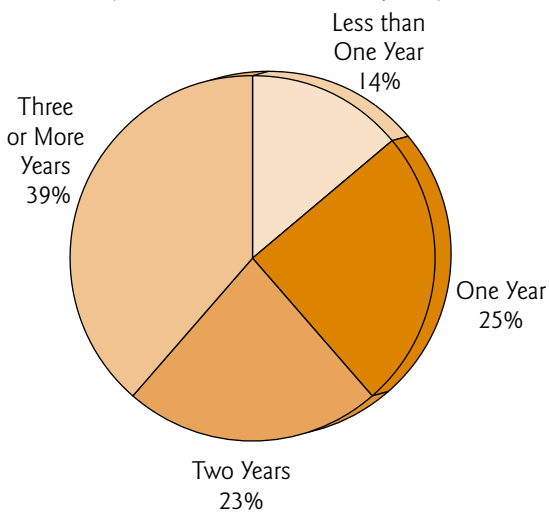
Average age of computer in the home	2.42 yrs
Percent of residents with high-speed Internet access in the home	27%

The majority of computers in the homes of Seattle residents are less than two years old.

More than three out of five (62%) home computers are two years old or less, with the average age of a computer in a Seattle home at 2.42 years. Residents living in moderate and middle income households are the most likely to have a computer in the home that is one year old or less (49% and 52% respectively).

AGE OF COMPUTER IN THE HOME

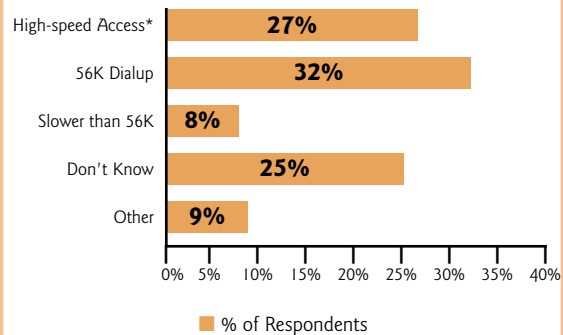
(BASE: Those with home computers)



Source: 2000 Seattle IT Residential Survey

SPEED OF INTERNET CONNECTION AT HOME

(Base: Those with Internet at home)



* High Speed access is defined as DSL, ISDN, or cable modem service.

Source: 2000 Seattle IT Residential Survey

Only 34 percent of upper income households and 31 percent of upper middle income households have a computer that is one year old or less. This may be due to the decreasing price of computers over the last few years leading to an increased number of moderate and middle income families buying their first home personal computer.



Seattle has an extremely high penetration rate of high speed Internet access among residents with Internet at home.

One in four (27%) residents with Internet access have a high-speed connection using DSL or a cable modem, compared with only 10.7% of online households nationwide.²

A large number of respondents did not know the speed of their connection, giving instead the name of their service provider.

Barriers to Ownership of Computers and Internet

In order to track how well Seattle residents are meeting their home computing needs, we asked residents who do not have computers and/or Internet access in the home to tell us why. For some, issues of cost, space or distrust hinder ownership. A lack of ownership may be a values choice, a lack of interest, or dissatisfaction with content. As the data below suggests, seeking universal home access is a challenging and perhaps unrealistic goal. However understanding the barriers is a first step to appropriate action.

Measurements

Significant Barriers to Home Computer Access:

Don't Want One	38%
Cost	30%

Significant Barriers to Internet Access at Home (Computer Owners):

Don't Want	31%
Problems with Computer	16%
Cost	15%

In the case of both computers and the Internet, Seattle residents who do not have access at home were most likely to reply that it was because they did not want it.

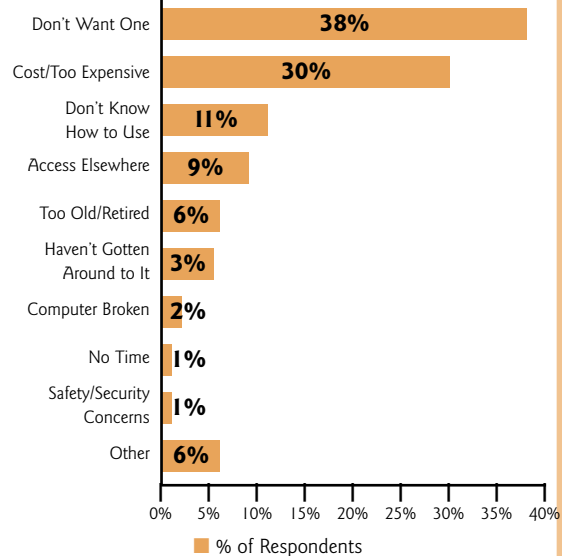
This is consistent with other national studies looking at barriers to access.^{3,4} Often, lack of desire to own computers or have Internet access comes from distrust of the technology itself or not being able to see how it would add any value to one's life.

The largest percent of respondents (38%) without a computer at home state that the reason they do not have a computer is because they do not want one. An additional 30 percent name cost as a barrier.

Men are more likely than women (47% compared to 30%, respectively) to indicate the reason they do not have a computer at home is because they do not want one, as are respondents over the age of 65 when compared to those age 35 and under.

BARRIERS TO COMPUTER OWNERSHIP

(Base: Those who do not have a computer in the home)



Source: 2000 Seattle IT Residential Survey

Women cite cost (35%) and no need (30%) as the major barriers to having a computer at home. While women are more likely than men to cite cost as a factor—35 percent compared with 24 percent, respectively—this difference is not statistically significant.

Cost is the greatest barrier to younger respondents—those 35 and younger.

Cost is still a barrier for low to moderate-income respondents. This group is more than three times more likely to state cost as a barrier than those without computers at home in the upper income bracket.



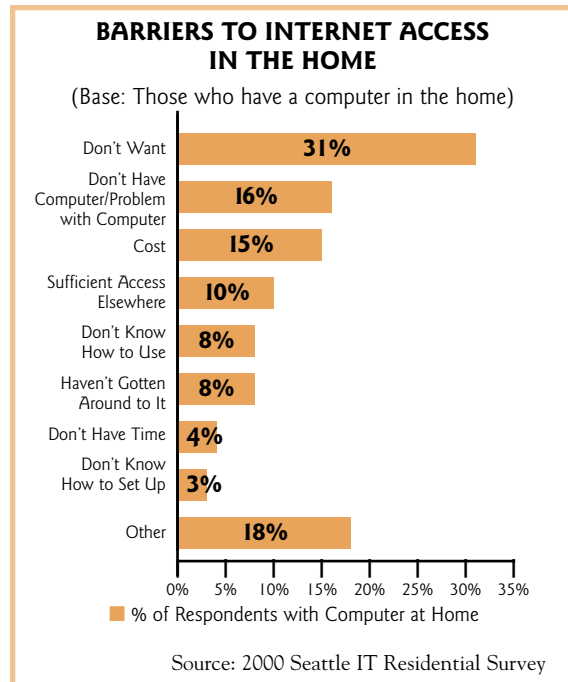
The most common reason that residents identified for not having Internet access at home was also because they do not want it.

This is consistent with other studies that have shown that the most common reason that individuals are not going online is lack of interest.^{5, 6}

The next level of reasoning cites cost (15%), and problems with a home computer (i.e., not working, not powerful enough, not available for personal use) (16%).

Lack of knowledge—both in terms of configuring a computer for Internet access (3%) and Internet literacy (8%)—are other identified problems.

Those who do not have a computer at home (51%) cite that fact as the most significant reason for doing without Internet access.



Relevance is critical to overcoming interest barriers

While not clarified in the data, experience tells us that two different types of people are represented in the group that rejects use of computers and the Internet. For some, it is a lifestyle and values choice. For others, it is a lack of exposure to the usefulness of computers and the Internet.

Seniors are a good example of the latter. Our experience in working with seniors shows that even the most cynical types enjoy computers and the Internet when shown how technology is relevant to their interests. Jim Sproull, volunteer senior computer instructor, shared this story:

"There is a palpable change in these seniors as they learn. Most learners are excited about getting into the technology, but they don't even have a clue about how much is out there.

"A good example is Archie. Archie was pretty frustrated until we got him onto the baseball page. And baseball is many things, but if it's anything at all, it's counting the numbers, the stats. Who's batting at what? How many pitchers have pitched 20 games? And the Internet provides all of that—far more than one could ever get out of a newspaper. You can compare this team's batting percentage playing night games away against that teams batting percentage playing home games during the day. If you want to do those things.

"And he said, 'this is incredible!'

"And his frustration level dropped away because he was now seeing that there is something very real that he could latch onto and get off of this, rather than just learning it. There're things he can get that will provide him enjoyment."



Cost of Access

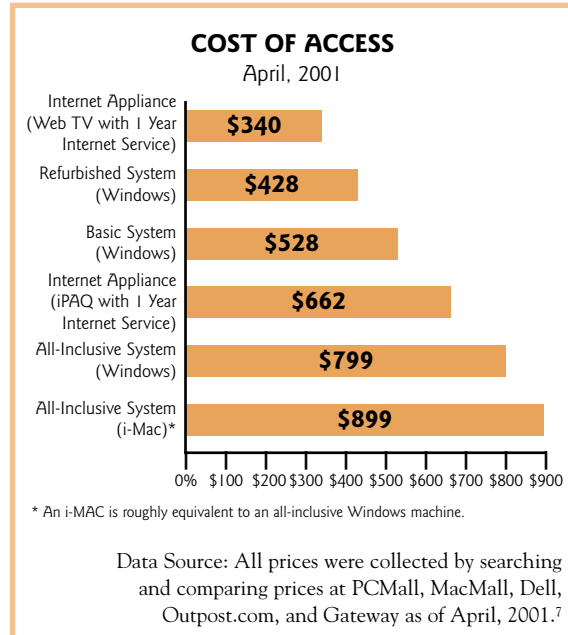
As stated in the previous indicator, cost is not identified as the greatest barrier to access. However, it does remain the most significant barrier to those who want the technology but cannot afford it. One way to measure cost as a potential barrier to home computing and Internet access is to define basic access and track its cost over time. The chart below presents a baseline for this tracking.

Measurements

Basic Systems	\$428–\$528
All-Inclusive Systems	\$799–\$899

Our scan of current pricing still finds that prices are likely prohibitive for low income families, although the cost of computers has dropped.

Even a refurbished system costs just over \$400, and does not include technical support or any maintenance costs that may arise. Many major computer retailers do offer payment plans for very low monthly rates or reduced pc cost with Internet subscriptions. This may encourage some families to make computer purchases, although it discriminates against low-income residents by costing purchasers more than if bought outright.



Access Outside the Home

This indicator tracks residents' use of computer outside the home, by measuring the usage of computers at work, school, and public computing locations. Work, school, and public computing locations, such as libraries, community centers, and Internet cafes provide classes and access to the Internet, whether residents have a computer at home or not. These are important electronic watering holes; they provide skill building opportunities and bring community together. Access centers may also provide higher quality, state of the art technology to those with older systems at home.

Measurements

Residents who use computers at work	56%
Residents who use computers at a place in addition to work or home	56%

Many residents access computers outside the home, at places like work, school, the library, and community centers.

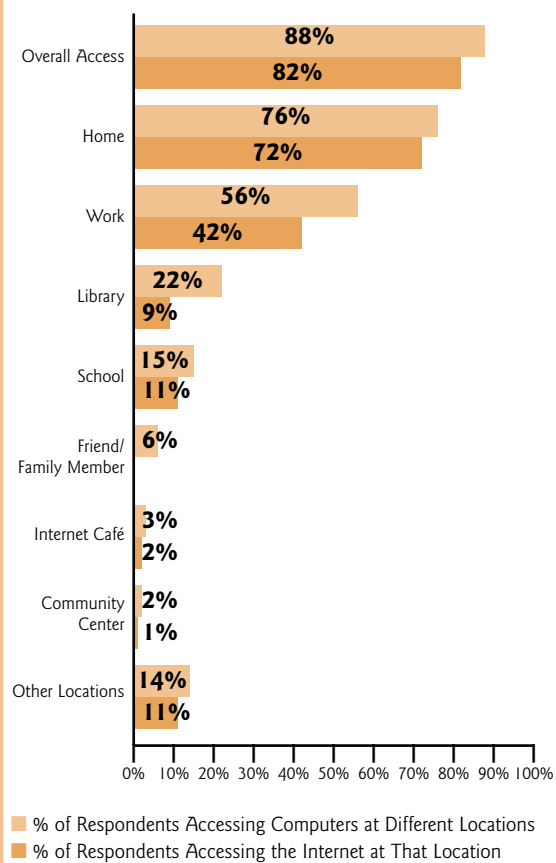
After home access, the largest number of residents (56%) access a computer at work. Of those who access a computer at work, only nine percent identified this as their only access point.

More than half (56%) of residents use a computer at some place in addition to home or work. Twenty-two percent indicated using a computer at a public library and 15 percent at school. Only eight percent of those using a computer at a public library and three percent of those using a computer at school cite this as their only computer access. While this was not originally included in the questionnaire as a separate location, six percent of those surveyed mentioned that they used a friend's or family member's computer. Thirty-one percent (31%) of those who said they use a friend's or family member's computer said this is their only computing location.

Similarly, many residents also access the Internet outside the home. Of those who use a computer at work, 76 percent use it to access the Internet. The same percent (76%) of those who use a computer at school use it to access

PERCENTAGE WHO ACCESS THE COMPUTER AND INTERNET BY LOCATION

(Base: All Respondents)



Source: 2000 Seattle IT Residential Survey

the Internet. For those who use a computer at Internet cafés, 66 percent use the Internet. For those who use computers at a community center, 59 percent access the Internet. Those who use computers at a library are least likely to go online at that location, with only 39 percent stating that they use the Internet.

Public Access Points: Proximity to Public Access

This indicator gauges how close residents are to centers providing public access to IT tools. These locations where the community can gain free or low-cost access to technology are often called community technology centers (CTC's). They are one solution to the gap that still exists between those with home access to computers and those without. Studies have shown the benefits of CTC's extend beyond access. These labs are often linked to community centers or non-profit organizations and provide both technology training and community resource connections. Increased job skills, improved outlook on learning, increased civic participation, and new social and community connections are all reported impacts of community technology centers.⁸ While all residents, regardless of home access, could benefit from the access and training at these centers, they are most critical where home access is low, and particularly for low-income residents.

Measurements

The average household is about $\frac{1}{2}$ (.56) of one mile from a public computer

The average low-income household is about $\frac{1}{3}$ (.33) of one mile from a public computer

(Note limitations below)



In Seattle, residents are, on average, just over half a mile from a public computer access site. For low-income households, this distance decreases to about a third of a mile.

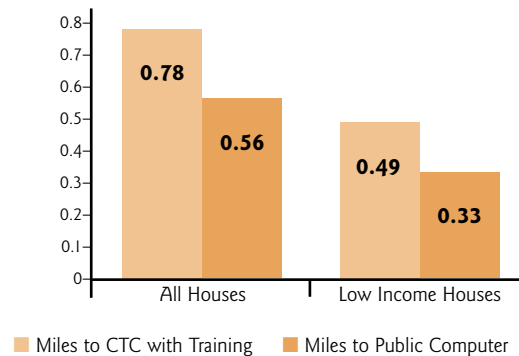
Some of the public access sites offer training opportunities and some do not. When those that do not offer training opportunities are removed from the list, Seattle residents are just over three-quarters of a mile from a public computer. For low-income households the distance to a public computer center with training opportunities decreases to about half a mile.

The research that led to these findings is useful, but it's important to also understand its limitations. For instance, there is no distinction made between public access sites with just a single computer (i.e., a neighborhood service center or coffee shop) and those with many computers. This analysis also does not take into account the fact that some access sites are targeted towards specific populations or interest groups, and that the center closest to a resident may

not be the one that they feel most comfortable attending. More information on other limitations to this research can be found in the appendix.

Despite the limitations, this research is still useful in that it illustrates the concentration of public computer access sites in the Seattle area. On average, all residents are roughly within walking distance (about $\frac{1}{2}$ mile) of a public computer. However, there are still some areas in the north end of the City and in West Seattle that are below the average distance of just over half a mile to a center.

DISTANCE TO PUBLIC ACCESS SITES IN SEATTLE



Source: Drew, Jason and James Werle, "Low income, technology access & training: Are the local CTCs helping to close the gap?" November, 2000.⁹

Capacity of Public Access Points

As seen in the previous indicator, public computers in Seattle are relatively well distributed, with lower income neighborhoods containing a higher penetration of access points. However, counting computers and measuring distances do not indicate the overall capacity of these centers to meet the needs of their communities. This indicator below attempts to capture how well used the existing resources are.

Measurements

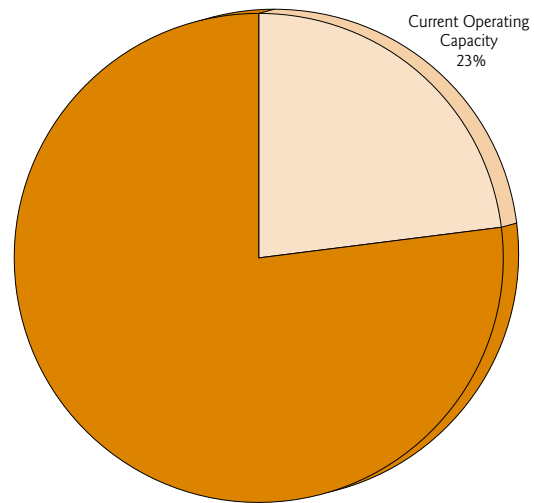
Capacity Index for
Seattle Public Access Centers

23

Although more than 400 individual users were reported at the 18 sites that participated in our Public Computer Usage Assessment Day, there are still many computers open to the public that are going unused.

This data is based on a one-day assessment of public computer usage at 18 locations across the city. These centers ranged in size from one to 31 computers. In total, the centers represented 124 computers across the city. A total of 427 users were documented at these centers on the assessment day. More than half of these were users of the public access computers at the Central Library,¹¹ which is the largest site with a total of 31 computers. Operating capacity ranged from an average of 76% at one center to 0% at some of the single computer access points. In general, centers with larger numbers of computers had relatively higher usage than those sites with only one or two computers.

CURRENT OPERATING CAPACITY OF SEATTLE COMMUNITY TECHNOLOGY CENTERS



Source: City of Seattle—Public Computer Usage Assessment Day, April 11th, 2001¹⁰

Most of our students come from different ethnic backgrounds. And they have problems back home. When they come here on the first day orientation, I tell them, "You guys are coming from different areas. We have different issues in our politics. But this is not the place."

The first day, they don't talk to each other. After that, there is no problem at all. No matter what politics is going on over there [in Africa]. So, I see in many ways that this lab is not only for technology. It's for stronger relationships between the communities.

—Tsegaye Gebre, Horn of Africa Instructor



Information Technology as a Tool for Breaking Down Barriers

Information technology holds great potential for serving people with disabilities, people who are homebound (including seniors), and non-English speaking people. Information technology can open doors to employment, education, communication with family and friends and community participation opportunities that otherwise may not be available. However, these groups also face unique and very challenging barriers to access.

People with Disabilities

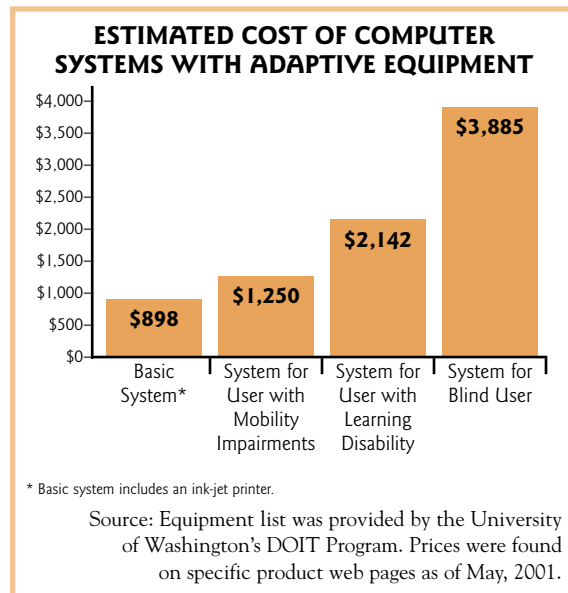
This indicator charts the cost of information technology access for those with disabilities compared to others. National research shows that people with disabilities are less likely to have computer and Internet access than those without disabilities. The U.S. Department of Commerce found that those who identify themselves as having a disability were only half as likely as those without a disability to live in homes with Internet access. About 60 percent of those who have at least one type of disability have never used a computer, compared to just under 25 percent of those who do not have a disability.¹²

Measurement

Percent increase in cost of adaptive systems compared to basic systems **40% to 332%**

The cost of computers for people with disabilities is considerably higher than for those without any special accessibility needs.

Recent strides in equalizing computer and Internet access have produced technologies like screen readers, Braille printers, specialized keyboards, and alternatives to the mouse. These technologies, however, are not inexpensive. Their major cost is often a problem for those who are unable to work or living on a fixed income.



There are an unlimited number of disabilities that require adaptive equipment for computer use. And there is a range of adaptive solutions for each individual problem. For the purposes of this study, we chose a few sample packages that are often used with certain disabilities.¹³ These packages were priced out and compared to the cost of a basic system.

Civic Information Web Sites with Accessibility Standards



Access to the tools is only one element of addressing access for those with disabilities. Access also requires providing online content that can be read, navigated, and processed by these tools. In this interest, the World Wide Web Consortium's Web Accessibility Initiative has developed basic accessibility standards for web pages.

The standards aim to guarantee that all people will be able to access information, notwithstanding their disabilities or the sophistication of the technology in use. The goal is that eventually all web sites will be created with accessibility standards in mind. To begin to gauge our local content accessibility, we tested some

Measurement

Community Web Page Accessibility Index **54%**

important local civic sites to see how well accessibility standards are being met.

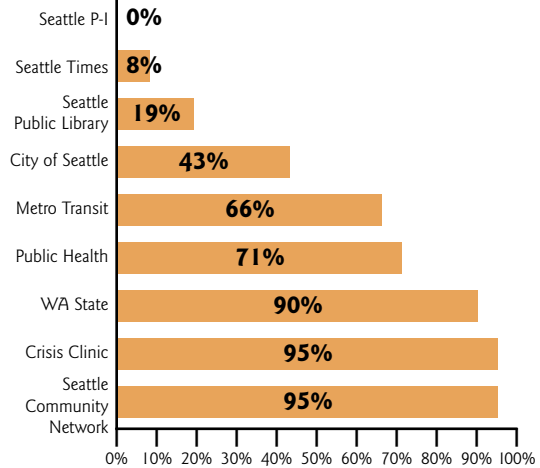


None of the civic information sites tested completely met accessibility standards.

In total, just over half of all the tested pages from nine important community sites were accessible to individuals with disabilities.

For this indicator, a sampling of nine "civic information" sites were tested using Bobby, a web site accessibility testing tool created by the Center for Applied Special Technology.¹⁴ Sites were rated by the number of pages tested that met accessibility standards, meaning that no "priority one" errors were found by Bobby on that page.¹⁵ A higher number on the graph indicates that the site is closer to meeting accessibility standards. The Community Web

PERCENTAGE OF PAGES THAT MET ACCESSIBILITY STANDARDS



Source: Tests conducted with the Bobby accessibility testing tool from the Center for Applied Special Technology between April 24–26, 2001.

Page Accessibility Index was determined by taking an average of all the nine sites tested.

Some of these errors can be easily fixed. The lack of compliance with accessibility standards indicates that there continues to be a need for educating the public and web developers on the importance of web accessibility.

Information Technology as a Tool for Breaking Down Barriers, *continued*

Homeless Population



The homeless are another community that the City is concerned with assisting and not leaving out of the information age. This is also a very difficult population for which to gather data. Although there are free access sites and training resources available, many of those who are homeless may not know where to go to get access or may not feel comfortable visiting some of the locations. Community Voicemail, providing telephone voice mail accounts for the homeless, provides a great example of enabling the underserved with information technology tools. Just as voicemail has enabled those in our community to stay in touch with family or potential employers, computers, Internet and email can provide these critical connections and encourage personal development and increased self-sufficiency.

There is currently no statistical information available on the level and quality of access that the homeless population has to computers. There is, however, some focus group and anecdotal information about homelessness and technology access and training. Staff at the Seattle Public Libraries and a couple of our Neighborhood Service Centers report that homeless residents use computers there, and a few homeless assistance agencies have set up small labs in their offices. A center at Real Change, a service agency and newspaper production studio for the homeless, is well used and expanding. Despite this information, overall access is believed to be low.

The information that we do have indicates that knowledge about computers and access is low in the homeless population, but many homeless residents are interested in learning more. In October and November of 2000, United Way, the City of Seattle and King County held a series of focus groups with homeless residents to discuss general homelessness planning efforts and to gather input on upcoming proposed projects. Nine focus groups were held, with more than 60 people including single adults, families, and youth recruited through homeless assistance organizations. The focus group participants were asked to talk about their experience with computers and whether or not they would be interested in learning more about them. In general, most of the participants did not currently use computers, but they had a strong interest in learning and expressed a sense of being left behind. Almost none of the participants recalled ever using a computer to access services, and most were very interested to learn how they might do that. Many of the participants were interested in receiving training, but they wanted to be sure someone was on hand to help. When asked where they would like to access computers, responses included places where they already often have to wait (such as Harborview Medical Center or Department of Social and Health Services) or within the social service agencies that provide services to the homeless.¹⁶

The Internet is important for jobs and being comfortable with computers. There're certain things that people like to do, like being able to communicate with friends and family. Or being able to find out information about things that they're interested in. Or being able to play a fun game. It doesn't matter if you're rich or poor, home-full or homeless, you still want to do those things. And the Internet is the most popular way.

—Lily North, VISTA Volunteer, Real Change

Notes

- 1 City of Seattle Department of Information Technology, *2000 Seattle Information Technology Residential Survey*, 2001 pp 56, 65.
- 2 U.S. Department of Commerce, *Falling Through the Net: Toward Digital Inclusion*, October 2000, p 23.
- 3 Amanda Lenhart, *Who's not Online: 57% of those without Internet access say they do not plan to log on*, Pew Internet and American Life Project, September 2000.
- 4 U.S. Department of Commerce, p 26.
- 5 Lenhart, p 2.
- 6 U.S. Department of Commerce, p 26.
- 7 This data comes from searching and comparing prices at various computer retailers such as PCMall, MacMall, Outpost.com, and directly through retailers like Dell and Gateway. Prices can fluctuate greatly, and these prices do not include any sales or rebates. In some cases, residents may be able to get better deals on equipment through close-out sales, local distributors or quality second-hand equipment through friends or relatives. In general though, the prices reflected here were relatively consistent across the various sites selling computer equipment. The prices shown in this section are from April 2001. For this indicator, we defined a basic system as one that is currently on the market and allows residents to run current applications, access the Internet, load new software, and run a current operating system. For more detail on the sample systems used in this indicator, please see www.cityofseattle.net/tech/indicators/add_info.htm.
- 8 June Mark, Janet Cornebise, and Ellen Wahl. *Community Technology Centers: Impact on Individual Participants and Their Communities*, April 1997. Research conducted for CTCnet by the Education Development Center.
- 9 This research, conducted by graduate students in the University of Washington's Information School and the Daniel J. Evan's School of Public Affairs, was based on a number of assumptions that may limit the reliability of this data. A presentation of this research, including information on the limitations, can be found at www.cityofseattle.net/tech/indicators/UWpresentation.
- 10 For more information on the specific results of the Public Computer Usage Assessment Day and the limitations of this assessment, please see www.cityofseattle.net/tech/indicators/add_info.htm.
- 11 Computers at the libraries were only counted in this study if they could be used for functions other than searching the card catalog i.e. Internet access, word processing, etc.
- 12 U. S. Department of Commerce, 61.
- 13 These sample packages were suggested to us by the Disabilities, Opportunities, Internetworking, and Technology (DOIT) program at the University of Washington based on systems that they buy for their programs.
- 14 See <http://www.cast.org/bobby>
- 15 For detailed results of the tests run on each page and the types of errors found, please see www.cityofseattle.net/tech/indicators/add_info.htm.
- 16 United Way of King County, City of Seattle, and King County. *Highlights from the Seattle-King County Focus Groups with Homeless People*. Unpublished.